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ABSTRACT

The present study was designed to test the effectiveness of performance visualization in reducing communication apprehension (CA) in employment interviews. Literature on CA and its relationship to employment interviews is reviewed. Causes of CA and available interventions are also discussed. The study employed a pre/posttest control group experimental design. The independent variables were the three treatment groups--performance visualization, placebo, and control. The dependent variables were the Personal Report of Communication Apprehension in Employment Interviews (PRCAEI), state CA, the Job Interview Self-Statement Schedule (JISSS), trust, and attraction scores. The data were analyzed using MANCOVA. The results suggested that there were no differences between the three groups. Therefore, none of the hypotheses could be confirmed. One reason for this outcome is the lack of participants' motivation in the study. Other possible reasons for these findings, limitations of the study, and suggestions for future research are discussed in the conclusion of this report. (Contains 77 references and a table of data.) (Author/RS)

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EFFECTS OF PERFORMANCE VISUALIZATION IN MOCK EMPLOYMENT INTERVIEWS

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Abstract

The present study was designed to test the effectiveness of performance visualization in reducing communication apprehension (CA) in employment interviews. Literature on CA and its relationship to employment interviews is reviewed. Causes of CA and available interventions are also discussed. The study employed a pre/posttest control group experimental design. The independent variables were the three treatment groups – performance visualization, placebo, and control. The dependent variables were the Personal Report of Communication Apprehension in Employment Interviews (PRCAEI), state CA, the Job Interview Self-Statement Schedule (JISSS), trust, and attraction scores. The data were analyzed using MANCOVA. The results suggested that there were no differences between the three groups. Therefore, none of the hypotheses could be confirmed. One reason for this outcome is the lack of participants' motivation in the study. Other possible reasons for these findings, limitations of the study, and suggestions for future research are discussed in the conclusion of this report.

Keywords: Performance Visualization, mock employment interviews.

Communication apprehension (CA), defined as "an individual's level of fear or anxiety associated with either real or anticipated communication with another person or persons" (McCroskey, 1984, p. 13), was introduced to the communication discipline a half of a century ago. CA has also been referred to as reticence (Phillips, 1965), stagefright (McCroskey, 1976), social anxiety (Schlenker & Leary, 1982), unwillingness to communicate (McCroskey & Richmond, 1987), and social-communicative anxiety (Daly, Caughlin, & Stafford, 1997). Early work on CA mainly focused on public speaking (e.g., Phillips, 1965). Later on, CA was broadened to include writing (Daly & Miller, 1975), receiver apprehension (Wheeless, 1975), interpersonal communication (Ayres, 1989), nonverbal communication (McCroskey, 1976), focus groups (Lederman, 1983), and employment interviews (Ayres, Ayres, & Sharp, 1993).

Research has shown that CA is related to a number of personal and social dimensions. For example, CA was found to be negatively related to academic success (McCroskey, Booth-Butterfield, & Payne, 1989), cognitive performance (Bourhis & Allen, 1992), self-esteem (Daly et al., 1997), self-efficacy (Hopf & Colby, 1992), interpersonal attraction (McCroskey, Richmond, Daly, & Cox, 1975), task and social attraction (Baker & Ayres, 1994; McCroskey & Richmond, 1979), social perceptions (Colby, Hopf, & Ayres, 1993), and the quality of relationship with employers (Richmond, Wagner, & McCroskey, 1983). As literature on CA has been broadened to a variety of settings, researchers have also shed light on CA in employment interview situations.

Communication Apprehension and Employment Interviews

Employment interviews are considered to be anxiety provoking (McCroskey, 1976). Congruent with data on CA in other circumstances, available evidence indicates that high CAs do not perform well in job interviews (Ayres et al., 1993; Ayres & Crosby, 1995). Daly et al. (1979) found that high CA applicants were seen to be less task and socially attractive, to seek jobs that require little communication, to be less satisfied with their jobs, to be less likely to advance in the organization, and to be more likely to leave the organization than less apprehensive people. Ayres and his colleagues found that high CAs were less likely to be hired than low CAs in both simulated and real situations (Ayres et al., 1993; Ayres & Crosby, 1995).

Although similarity between the interviewer and the applicant plays an important role in selection decisions, such that the more similar the applicant and interviewer the more likely one will be hired. CA is an exception to this pattern. A high CA interviewer is unlikely to hire a high CA applicant (Daly et al., 1979). This may be because high CAs are perceived to be less trustworthy, less task oriented, and less socially attractive than low CAs (Ayres et al., 1993).

Literature suggests that CA is a disruptive factor that interferes with effectiveness in employment interview situations. Ayres et al. (1998) investigated CA patterns in job interviews. They found that high and low CAs think about employment interviews in different ways. High CAs avoid thinking about a pending interview while low CAs do not. Unlike low CAs, high CAs concern themselves with negative thoughts throughout the interview process (e.g., how much they dislike it, how poorly they

expect to do, what the interviewer is negatively thinking about them). Regarding preparation activities, high CAs report spending less overall preparation time than do low CAs. They also tend to avoid communication-oriented preparation activities. In addition, high CAs employ verbal and nonverbal avoidance behavior. They talk less, look at the interviewer less, ask fewer questions, and are more disfluent than low CAs. Not surprisingly, high CAs are perceived by interviewers to be less effective communicators and less likely to receive a job offer than low CA applicants.

The disadvantages of CA make a difference when the competence and background of applicants are the same as low CAs; low CAs are preferred over high CAs (e.g., Ayres et al., 1993). Although CA appears not to be related to intelligence (e.g., Bourhis & Allen, 1992; McCroskey & Richmond, 1979) or grades (e.g., Dwyer & Cruz, 1998; Bourhis & Allen, 1992), vocal delivery seems to be an important factor that influences interviewers' decisions (Ugbah & Evuleocha, 1992). Mino (1986) found that good vocal delivery camouflages poor content. Not surprisingly, high CAs are often viewed as requiring more training and as having less likelihood of success (Daly et al., 1979). In order to help high CAs cope with difficulties of this nature, an understanding of how CA develops is necessary.

Causes of Communication Apprehension

McCroskey (1984) views CA on a continuum. Along this continuum, there are four types of CA – traitlike, generalized-context, and person-group, and situational orientations. According to McCroskey (1984), traitlike CA is "a relatively enduring,

personality-type orientation toward a given mode of communication across a wide variety of contexts" (p. 16). Generalized-context CA is "a relatively enduring, personality-type orientation toward communication in a given type of context" (p. 16). From this perspective, CA can occur in (a) public, (b) meetings, (c) small groups, and (d) dyadic interaction. Person-group CA, the most statelike type of CA, is "a relatively enduring orientation toward communication with a given person or group of people" (p. 17). Lastly, situational CA is "a transitory orientation toward communication with a given person or group of people" (p. 18). In other words, there are three dimensions to locus CA – context, receiver, and time (McCroskey, 1984).

Two major explanations of traitlike CA proposed by McCroskey (1984) are heredity and environment. In other words, we are born with it or we learn it. The heredity approach has recently been widely recognized by many communication scholars. In their recent review, Daly et al. (1997) propose four interrelated correlates of social-communicative anxiety development – genetic predisposition, reinforcement, skill acquisition, and modeling. They suggest that these four factors intermingle and interact as they shape an individual's level of anxiety. Beatty, McCroskey, and Heisel's (1998) communibiological paradigm proposes that CA is inborn, biological functioning, and largely independent of the social learning process. Therefore, these inborn structures are responsible for certain but not far from all communication behaviors and associated processes (McCroskey & Beatty, 2000).

McCroskey and Beatty (2000) give significance to the cerebral cortex, "new brain," as it is the primary component in communication development. Wilcox (1997)

also recognizes the significance of cognition formation and brain's structure as factors contributing to CA. Along this line, Bodary and Miller (2000) argue that biological brain differences affect social interaction preferences.

With regard to the influence of environment, McCroskey (1984, 1997) acknowledges reinforcement and modeling as meaningful contributors to traitlike CA. This learning theory perspective holds that people develop CA because they learn to associate negative outcomes with communicating. Learned helplessness (McCroskey, 1984) is produced by inconsistency in the rewards and punishments one receives. Therefore, the foundational elements of CA are learned helplessness and learned negative expectations. Since CA is partially inherited (McCroskey & Beatty, 2000) and reinforced over time (McCroskey, 1984), traitlike CA has been established to be stable across situations. However, the importance of environment should not be devalued because it is too complex to be accurately controlled and measured (Condit, 2000).

As for situational CA, McCroskey (1984) contends that it is mainly attributable to novelty, formality, subordinate status, conspicuousness, unfamiliarity, dissimilarity, degree of attention from others, and prior history. As a result, no matter how high one's traitlike CA is, these elements can cause state CA (McCroskey, 1984).

Since state CA is rooted in cognition, statelike CA is best explained through cognitive processes (McCroskey, 1984, 1997; Ayres, 1997). According to McCroskey (1984), "people develop expectations with regard to other people and with regard to situations ... when expectations are found to be inaccurate, the individual is confronted

with the need to develop new expectations ... when no appropriate expectations can be developed, anxiety is produced" (p. 27).

For almost four decades, researchers have supported the importance of cognitive elements in the development of CA (e.g., Ayres & Hopf, 1993; Ellis, 1962; Meichenbaum, 1977; Wilcox, 1997). For instance, Ayres (1988) found speech anxiety to be positively correlated with negative thoughts and negatively related to positive thoughts. Ayres and Hopf's (1993) study confirmed this effect when they found negative or irrational thoughts contribute to experiencing communication anxiety, which consequently lead to feeling anxious, hindering behavioral skills.

In his recent theory, a component theory of communication apprehension, Ayres (1997) explains that state CA is a combination of three variables – self-perceived motivation, self-perceived negative evaluation, and self-perceived communication competence. CA is at its maximum when self-perceived motivation is extremely elevated, self-perceived negative evaluation is very high, and self-perceived communication competence is zero (Ayres, 1997).

Given the important differences between traitlike and statelike CA, intervention work should recognize the various causes contributing to the problem. CA, in the employment interview situation, functions as a context variable (Ayres et al., 1993) or statelike variable (Ayres, 1997). Intervention programs focusing on reducing statelike CA seem to provide more consistent findings than do other approaches (e.g., Ayres et al., 1993; Ayres et al., 1998). Given the foregoing analysis it appears that any approach to treat state CA in employment interviews should highlight the cognitive

element as a focal factor of CA. A review of CA interventions, emphasizing cognitive interventions, is presented.

Communication Apprehension Interventions

Along with the rapid growth of CA literature, numerous techniques aimed to help individuals cope, or even overcome, this difficulty have been developed. Available interventions can be classified into three types - cognitive, affective, and skills based (e.g., Ayres & Hopf, 1993; Ayres, Hopf, & Ayres, 1994). Interventions grounded in cognitive explanations (e.g., Ellis, 1962; Meichenbaum, 1977; Ayres & Hopf, 1985) highlight the importance of thinking processes. They presume that destructive, irrational thoughts which people entertain lead to the development of CA. Cognitive approaches to intervention include rational-emotive therapy (Ellis & Harper, 1972), cognitive restructuring (Meichenbaum, 1977), cognitive-orientation modification therapy (Motley, 1997), and visualization (Ayres & Hopf 1985).

Affective perspectives emphasize the emotional (e.g., feeling feared) and physiological symptoms associated with a state of CA (e.g., heart rate accelerating, shivering, blushing). Affective interventions include flooding (Marshall, Parker, & Hayes, 1982) and systematic desensitization (Wolpe, 1958).

Behavioral or skills based explanations assume CA arises from a lack of communication ability. Individuals who experience CA often shake, stutter, and appear rigid because they lack necessary skills. Interventions grounded in this approach, such

as Rhetoritherapy/skill training (Kelly, 1997; Phillip, 1977), highlight the development of speaking skills.

Even though approaches from all three perspectives have been proven to be effective in reducing CA (e.g., Ayres & Hopf, 1985; Ayres & Hopf, 1993; Dwyer, 1998; Motley, 1997), it appears, based on the rationale developed earlier, that cognitively based techniques appear to be the most effective in helping people cope with CA in employment interviews. For this reason, four cognitive interventions, rational-emotive therapy (Ellis & Greiger, 1977; Ellis & Harper, 1972), cognitive restructuring (Meichenbaum, 1977), cognitive-orientation modification therapy (Motley, 1997), and visualization (Ayres & Hopf, 1985), are examined in more detail in this section of this proposal.

According to Ellis (1962), humans develop as a function of biological inheritance and self- and social-learning tendencies. His theory, **rational-emotive therapy (RET)**, holds that human beings are born with a potential for both rational and irrational thinking. As stated by Ellis and Greiger (1977), the "human animal is biologically predisposed to think crookedly on many occasions, to defeat his own ends, to be over-suggestible and overgeneralizing, and to become both anxious and hostile with very little or no objective provocation and to continue to reinfect himself with anxiety and hostility no matter what kind of upbringing he has had or in what kind of society he has been reared" (p. 178). They feel that by disputing irrational beliefs (e.g., "musts," "shoulds"), one can attain philosophical reality. Accordingly, irrational thoughts (e.g., "I *must* perform in job interviews competently and perfectly well.") are

challenged and replaced by rational statements (e.g., "Doing well in job interview is preferable.").

While the RET emphasizes challenging irrational thoughts and developing coping statements, **cognitive restructuring** (Meichenbaum, 1974), a variant of RET, involves education, skills acquisition, and rehearsal. It primarily emphasizes identification of negative self-statements, and their replacement with more positive self-verbalizations (Zettle & Hayes, 1983). From this perspective, knowledge and rehearsal of coping statements are key elements contributing to the effectiveness of this procedure. For example, if one thinks "I cannot handle speaking in front of a big group of strangers" or "No one will like my speech," the coping self-statements might be "The audience members are just like me" or "It is OK if some people don't like my speech; my job is to complete this presentation" (see detailed procedure in Ayres & Hopf, 1993).

Cognitive-orientation modification (COM) therapy (Motley, 1997) is based on the concept that different people take performance or communication orientation when speaking. People who adopt a performance orientation view public speaking as a situation demanding polished delivery techniques and skillful speaking methods in order to satisfy the audience's expectations. High CA speakers believe that the audience is concerned mainly about evaluating their ability to speak. On the other hand, those who adopt a communication orientation approach view public speaking as an ordinary communication situation. The objective is to get one's points across via a very normal conversational delivery style. It is assumed that the audience is focused on the message and not on the speaker. During COM therapy, high CAs are persuaded to

discard their performance orientation in favor of a communication orientation. Similar to RET and cognitive restructuring, the COM approach attempts to eliminate the negative assumptions by demonstrating the assumptions to be false (Motley, 1997). Unfortunately, COM therapy, a relatively new intervention, is limited in that it applies only to public speaking anxiety (Motley, 1997).

In 1985, Ayres and Hopf introduced **visualization** as an alternative, cognitive approach to intervention. At first, visualization treatment was aimed at reducing CA in public speaking situations (e.g., Ayres & Hopf, 1985, 1987, 1989, 1990). Ayres and his colleagues have found that visualization not only reduces CA, it also lowers CA levels over time (Ayres & Hopf, 1990). Subsequently, it has been broadened to other contexts which include writing (Ayres & Hopf, 1991) and initial interactions (Hopf, Ayres, & Colby, 1994).

However, although proven to reduce self-reported CA, visualization did not seem to affect behaviors (e.g., Ayres, Hopf, & Ayres, 1997). Consequently, a more complex, advanced version of visualization, **performance visualization**, was introduced by Ayres and Hopf in 1992. Unlike visualization, which is grounded only in the cognitive orientation, performance visualization draws from all traditional three elements that are thought to cause CA to develop – cognitive, affective, and behavioral (Ayres et al., 1994). Performance visualization has been proven to be more effective than the original version of visualization (Ayres et al., 1994). This positive, imaginary approach to intervention contains three fundamental components – education, visualization, and modeling (Ayres et al., 1997). The education stage explains the nature of the exercise

as well as why it should be accomplished. The visualization phase emphasizes listening to a script. The modeling phase involves watching an example.

Ayres, Ayres, Grudzinskas, Hopf, Kelly, and Wilcox (1995) did a component analysis of the education component in performance visualization. They found that it did not enhance the effectiveness of performance visualization procedures. Therefore, the most effective way to utilize performance visualization is to use a combination of guided imagery and modeling. This approach includes watching a videotape of a skillful speaker, making a mental movie of the speaker, and replacing the speaker on the tape with one's self. Participants are asked to practice delivering a speech in their imagination. This part repeats until the mental speech matches the image on the videotape.

Performance visualization was found to both reduce CA and enhance behavior as well as or better than other interventions (e.g., Ayres & Hopf, 1992). From available literature, performance visualization appears to be superior to RET, cognitive restructuring, and COM therapy in two ways. First, visualization aims at developing positive thinking. Whereas RET, cognitive restructuring, and COM approaches involve identifying, challenging, or replacing irrational thoughts, visualization ignores all negative thinking and focuses only on positive thoughts. Consequently, visualization eliminates chances of encountering negative thoughts. Secondly, unlike typical CA interventions that demand substantial resources and time, performance visualization requires less time and effort and can be used on a self-help basis (e.g., Ayres, 1995;

Ayres et al., 1997). Therefore, performance visualization intervention appears to hold a promise in alleviating CA in employment interviews.

Although previous research indicates that performance visualization is an effective treatment of CA, it has been examined mostly in public speaking situations (Ayres et al., 1997). However, it seems likely that performance visualization will be effective in other settings as well. This study attempts to test its effectiveness in an employment interview situation.

High CA applicants reported to avoid thinking about job interviews (Ayres et al., 1998). It may be because they often come across negative or irrational thoughts when they think about job interviews (e.g., "I will be judged poorly by the interviewers"; "I don't do well in job interviews"). It is also possible that they lack an appropriate model for the conduct of an employment interview. Therefore, they may not know "how" or are unable to see themselves doing well in such a situation. Consequently, by emphasizing positive thoughts and providing a model of a job interview, performance visualization appears to hold a considerable promise in helping high CAs cope with CA in employment interviews.

In addition to reducing CA, performance visualization should also increase the level of trust one has toward the interviewer. Wheeless and Grotz (1977) developed a trust scale based on the assumption that "interpersonal trust is probably more completely conceptualized as a *process* of holding certain relevant, favorable *perceptions* of another person which engender certain types of *dependent behaviors* in a *risky situation* where the expected outcomes that are dependent upon that other

person(s) are *not known* with certainty." (p. 251). CA has been found to have a negative relationship with trustworthiness in job interviews (Ayres et al., 1993); therefore, one's level of trust should increase when one's level of CA decreases. Since trustworthiness plays a major role in interpersonal communication, one's level of trust is likely to increase after an exposure to performance visualization.

Trust and attraction are intently related in interpersonal relationships (Ayres, 1989); as trust increases in a relationship, so does attraction. It seems likely then that as CA decreases and trust increases, attraction should also increase in this situation. In addition, the Job Interview Self-Statement Schedule (JISSS) was invented by Heimberg, Keller, and Peca-Baker (1986) to assess positive and negative cognitions that occur during a job interview. Positive and negative self-statement scores were found to be significantly related to CA in interviews (Heimberg et al., 1986). By focusing on positive thoughts, performance visualization ought to increase positive thoughts and reduce negative thoughts. This effect has been documented in a variety of studies (Ayres & Hopf, 1992, 1993). Given the foregoing rationales, the following hypotheses are advanced:

When scores have been corrected for initial pretest differences,

H1: Those who are exposed to performance visualization treatment will report lower scores on PRCAEI than those in placebo or control conditions.

H2: Those who are exposed to performance visualization treatment will report lower scores on state CA than those in placebo or control conditions.

H3: Those who are exposed to performance visualization treatment will report higher scores on trust scale than those in placebo or control conditions.

H4: Those who are exposed to performance visualization treatment will report higher scores on attraction scale than those in placebo or control conditions.

H5: Those who are exposed to performance visualization treatment will report more positive thoughts on JISSS scale than those in placebo or control conditions.

H6: Interviewers will report that interviewees who have been exposed to performance visualization will be more attractive and trustworthy than those exposed to the control and placebo conditions.

Methodology

The study was conducted in a midsize western university. Ninety three participants consist of 38 males and 55 females. The participants' ages ranged from 17-30 years (mean age = 20.17 years). Sixty eight participants reported having done at least one or more formal job interviews while 25 people reported having no experience in any formal job interviews. Confederates were thirty two interviewers (13 men and 19 women) who were student volunteers from an upper level communication class. These interviewers were blind as to the purpose of the study. To increase the probability of honest responses, the participants were informed that their names and/or other personal information would be kept confidential and would not be used in the research report.

Instruments

PRCAEI. The Personal Report of Communication Apprehension in Employment Interviews was devised by Ayres, Ayres, and Sharp (1993) and revalidated by Ayres and Crosby (1995). The internal reliability of the scale ranges from .83 (Ayres et al., 1998) to .89 (Ayres et al., 1993). The predictive validity is also demonstrated in Ayres and Crosby's study (1995). They found that the individuals who scored high on PRCAEI were recommended to be hired less often than those whose scores on PRCAEI were low. Also, the higher the PRCAEI scores, the lower the interviewers ranked them for the position (Ayres & Crosby, 1995). The internal reliability of this measurement in the present study was .84 for the pretest and .85 for the posttest (using Cronbach's

coefficient alpha). Respondents were asked to respond to the following five Likert-type items:

1. While participating in job interview with a potential employer, I am not nervous.
2. Ordinarily, I am very tense and nervous in job interviews.
3. I have no fear of speaking up in job interviews.
4. I'm afraid to speak up in job interviews.
5. Ordinarily, I am very calm and relaxed in job interviews.

JISSS. The Job Interview Self-Statement Schedule (Heimberg et al., 1986) is a 50-item scale designed to gauge positive and negative thoughts people have in imagined job interview situations. In the present study, the two criteria of this scale were analyzed separately. The first part concerns how often a given positive/negative thought occurs during the interview and is referred to as JISSS part 1 in this study. The second part, referred to as JISSS part 2, concerns how often such a thought helps or hinders the interview. JISSS has .92 internal reliability and .91 subscale reliability (Heimberg et al., 1986). The construct validity was demonstrated by using factor analyses (Heimberg et al., 1986). The internal reliability of the scale, using Cronbach's coefficient alpha, was .94 for the pretest and .95 for the posttest in the present study.

State CA. Spielberger, Gorsuch, & Lushene's (1970) state CA is a five-item instrument designed to tap state CA. This scale has repeatedly been found to be

internally reliable (e.g., Ayres, 1995; Ayres, Heuett, & Sonandre, 1998; Ayres, Ayres, & Hopf, 1995). Internal reliability in this application was .94 for both pretest and posttest (using Cronbach's coefficient alpha). This scale asks respondents to report how they feel about the interview they have just completed on the following items:

1. I did not feel tense.
2. I felt calm.
3. I felt relaxed.
4. I felt at ease.
5. I did not feel jittery.

Trust. Wheeless and Grotz's (1977) trust scale is a fifteen item, seven point Likert-type instrument. It has been demonstrated reliable (split-half reliability is .92 and internal consistency reliability ranges from .72 to .92) (Rubin, Palmgreen, & Sypher, 1994). The predictive validity is satisfactorily demonstrated as trust was found to be related to self-disclosure, acquaintance time, relationship type, and solidarily (Rubin, Palmgreen, & Sypher, 1994). The internal reliability of this scale in this application, using Cronbach's coefficient alpha, was .94 for both pretest and posttest.

Attraction. Interpersonal Attraction scale (McCroskey & McCain, 1974) was selected for its demonstrated reliability (internal reliability ranges from .81 to .86 and split-half reliability ranges from .87 to .92) (Rubin et al., 1994). The attraction scale has been used extensively in the communication field. Its construct validity has been

demonstrated in a number of studies (Rubin et al., 1994). This 30-item scale measures social, physical, and task dimensions of attraction. These subscales are related, yet independent of one another. The reliability (using Cronbach's coefficient alpha) in the present study was .90 for the pretest and .91 for the posttest.

Confederate Training

The interviewers, blind to the nature of this study, were trained by the researcher as follows:

1. Explanation of the task: The confederates were told they would be playing the role of an interviewer in a simulated job interview. The position they were interviewing for was as a librarian assistant.
2. The interview questions were as follow:

Set I:

(1.) How would you describe yourself?

(2.) What do you see yourself doing five years from now?

(3.) What are your strengths?

(4.) What is the most important to you, the money or the type of job?

(5.) Why did you select your college or university?

Set II:

(1.)How would you describe the ideal job for you following graduation?

(2.)In what way do you think you can make a contribution to us?

(3.)Describe your most rewarding college experience.

(4.)What have you learned from your mistakes?

(5.)Why should I hire you?

The above questions were randomly selected from WSU's Career Services' "*50 most asked questions in job interviews.*" The first and last questions were selected from the pool to make the question order similar to a real interview. The rest of the questions were randomly split into two parts and arranged in random order. To avoid any possible errors that may have been caused by different orders of the interview questions, all interviews used the same set of questions. Half of the interviewers used Set I for the pretest interviews and Set II for the posttest interviews. The other half used Set II in the pretest and Set I in the posttest. Which interviews used which order was randomly decided. This procedure was followed in all three conditions to control for any effects associated with the question order.

3. Rehearsal: The interviewers practiced asking interview questions with their peers. They were allowed to rehearse until they felt comfortable.

Data Collection

Students scoring one standard deviation above the mean on the PRCAEI formed the target pool for this study. Respondents were contacted through their instructors and asked to participate in the study on a voluntary basis.

After the participants reported to the study site, they were informed about the general procedures to be followed. Then, each participant was randomly assigned to an interviewer to take part in a mock interview. Each interview lasted about 10 minutes. Following the interview, each participant was evaluated on trust and attraction by the interviewer using the trust and attraction scales. After the interview was completed, the interviewees were asked to complete pretest forms (PRCAEI, state CA, JISSS, trust, and attraction scales).

Next, the participants were randomly assigned to one of the following groups: experimental group, a control group, or a placebo group. The experimental group was exposed to a 25-minute videotape of performance visualization. The control group was left alone for 25 minutes. The placebo group watched a 25-minute video about organizational communication. Each of these conditions is discussed in more detail in the following section of this paper. After exposure to the identified treatment conditions, the interviewees participated in the second mock interviews.

Each participant was interviewed by the same interviewer as in the first mock interview. This procedure was desirable for two reason: (a) it rules out any unknown effects that may jeopardize the internal validity of the study due to inter-rater inconsistency (e.g., interviewers' individual differences, biases, and rating standards) and (b) it accommodates the use of trust and attractions scales, which require that participants observe and respond to the forms based on interactions with the same individual.

After the second mock interview, the respondents filled out the same set of forms (posttests). That is, both interviewers and interviewees filled out PRCAEI, state CA, JISSS, trust, and attraction scales. Once the experiment was finished, all participants were informed about the nature of the study. Those who were in the placebo and control groups were invited to view a performance visualization video. Finally, all participants were thanked for their participation and then debriefed.

Treatments

Control. In the control condition, participants completed the pre and posttests but were not exposed to any other activities. They were interviewed twice as were other groups. It was the fact that a 25-minute pause between the two interviews would not affect the dependent variables and, thus, would serve as a reasonable control condition.

Placebo. Participants in the placebo group completed pretests after the first mock interview. Then, they were assigned to a room and viewed a 25-minute video, "*Organizational Communication*". The material on the video includes a program examining types of information that pass through organizational channels and the barriers. It analyzes the impact of centralization on communication. There are several interviews from leaders of major companies on the problems managers encounter when communication and decision-making styles must be modified due to changes in personnel or organizational structure. The video is distributed by Insight Media, 121

West 85th street, New York, NY 10024. This videotape was not expected to contribute to reduction of CA in job interview. This group was expected to perform in the second interview as parallel as they did on the first one.

Experimental Group. Participants in the experimental condition completed the pretests after the first interview. Then, they were assigned to a room to view a 25-minute performance visualization video. The performance visualization video was developed using a professional director, a professional narrator, as well as excellent performers. The performers were judged and selected (by the researcher and her professional colleagues) from their outstanding rehearsals as they demonstrated excellent illustration of mock employment interviews. The performers were asked to memorize the script and practice until they were very fluent and comfortable. The production was generated in a licensed television production studio with specialized crewmembers. The script was modified from Ayres & Hopf's (1993) performance visualization script for public speaking. Changes were made to make the script fit employment interview situations (see the performance visualization script in appendix A).

This video contains much information on visualizing and modeling. For example, the participants were asked to close their eyes and practice visualizing themselves in a pleasant situation (e.g., imagining themselves having a relaxed conversation with good friends). Next, they viewed a good example of a job interview candidate on the videotape. This model, the job candidate, appeared confident and efficient. Through

visualization and modeling, they visualized themselves as confident and skillful in job interview situations. After the exposure to the treatment, the participants returned to the study site for the second phase of data gathering.

Design and Analysis

This study employed a pretest/posttest control group design. This design was selected because it has excellent internal validity and reasonable external validity (Campbell & Stanley, 1963). This design proceeds reasonable confidence that if a difference emerges in the variables under this investigation, the effect will appear again under these circumstances. The independent variables were the three treatment groups – performance visualization, placebo, and control. The dependent variables were participants' self-reports on the PRCAEI, state CA, JISSS, trust, and attraction scales as well as the confederates' reports regarding the participants on the trust and attraction scales.

Data were analyzed using a multivariate analysis of covariance (MANCOVA). The pretests served as covariates while the posttests served as the dependent variables. Analysis of covariance allows researchers to investigate main and interaction effects with higher statistical power than an analysis of variance (Huck & Cormier, 1996). In addition, by employing a more complex, multivariate analysis, type I error (discussed below) is reduced (Weinfurt, 1995).

Type I error (;) is the probability of rejecting the null hypothesis when it is true. On the other hand, type II error (β) is the probability of accepting a false hypothesis.

These two types of errors are inversely related. As we control type I error, type II error increases (Stevens, 1992). Consequently, "the problem for the experimental planner is achieving an appropriate balance between the two types of errors" (Stevens, 1992, p. 173). For instance, if we set up the significance (;) at a more liberal level (e.g., .10) instead of the traditional .01 or .05 level, we have a higher chance of finding a difference, or improving power (Stevens, 1992). Although "we are taking greater risk of rejecting falsely, but that increased risk is *more than balanced* by the increase in power" (Stevens, 1992, p. 173).

According to Stevens (1992), the power (1-β) of a statistical test is dependent on (a) the ; level set by the experimenter, (b) sample size, and (c) effect size. In the present study, drawing from the rationale discussed above, the researcher set the ; level at .10. Since power is heavily dependent on sample size, the sample size needed in a three-group MANOVA for power of .90, ; = .05 is 21 participants per group (Stevens, 1992). Therefore, data were collected until at least 63 people had participated in the study.

Lastly, the effect size refers to "how much of a difference the treatments make, or the extent to which the groups differ in the population on the dependent variable(s) (Stevens, 1992, p. 174). Accordingly, the effect size in the present study concerned how much of a difference the visualization treatment makes, if any. If the MANCOVA proceeded to be significant, the study would continue with appropriate post hoc analyses.

Findings

The MANCOVA analysis failed to achieve statistical significance ($F(2, 76)=0.908$, $p>.10$). Because the MANCOVA was not significant, no follow-up tests were conducted. This lack of difference is illustrated in the means reported in Table 1. As shown in Table 1, in performance visualization group the means on state CA and PRCAEI scales are lower in the posttests than in the pretests across all three groups. Trust and JISSS part I means in performance visualization group are also lower in the posttests than pretests. Even though these means appear to incline to the expected direction, no statistically significance was found in this analysis.

Table 1

Means and Standard Deviations of Pretests and Posttests for Eight Dependent Variables across Three Treatment Groups

Scales		Treatment Groups					
		Performance Visualization		Control		Placebo	
		Mean	SD	Mean	SD	Mean	SD
Attraction	Pretest	90.47	14.64	89.97	13.44	93.26	13.19
	Posttest	91.61	14.49	92.33	14.10	93.87	15.13
JISSS part 1	Pretest	158.36	26.56	165.48	22.53	173.10	26.21
	Posttest	172.03	22.71	168.19	25.98	179.52	24.28
JISSS part 2	Pretest	160.90	34.97	159.71	31.86	136.29	32.18
	Posttest	158.84	39.18	154.00	37.25	164.16	40.64
PRCAEI	Pretest	17.07	4.16	15.90	3.45	15.32	5.02
	Posttest	15.16	4.78	14.77	3.62	14.65	4.54
State CA	Pretest	12.68	5.34	11.42	4.53	11.48	4.84
	Posttest	9.77	4.17	10.20	5.00	9.10	4.04
Trust	Pretest	34.00	11.96	36.23	12.27	34.39	14.73
	Posttest	29.47	10.58	33.53	12.39	32.03	14.80
Interviewer Attraction	Pretest	89.58	18.55	81.45	13.28	86.58	19.80
	Posttest	90.07	19.05	81.19	15.57	88.16	18.52
Interviewer Trust	Pretest	34.42	12.25	33.13	13.87	33.93	14.55
	Posttest	32.73	11.36	33.45	12.51	31.73	14.36

Note: No significant difference was found across the three treatment groups.

Additional analyses were employed to probe the character of the data. ANOVAs, utilizing Bonferroni Inequality to adjust the alpha levels (Grimm & Yarnold, 1995), were applied to gender and interview experience variables. In these analyses, pretests were treated as dependent variables. Gender (male and female) and interview experience (yes and no) variables were treated as independent variables in two separate ANOVAs. The sample included 38 males and 55 females. ANOVA results of gender variable were significant for interviewer attraction ($F(1, 91)=8.383$, $p=.03$, $\varpi^2=.073$) and interviewer's trust ($F(1, 90)=6.582$, $p=.072$, $\varpi^2=.057$).

An inspection of the mean values of interviewer attraction for males ($M=79.76$, $SD=17.29$) and females ($M=90.09$, $SD=16.65$) indicated that female interviewees were perceived to be more attractive than male interviewees. The mean values of interviewer trust for males ($M=38.01$, $SD=14.08$) and females ($M=30.96$, $SD=12.31$) indicated that interviewers perceived female interviewees more trustful than male interviewees. As a result, female interviewees were seen by interviewers as more attractive and more trustful than male applicants.

As for the interview experience, 68 participants had experienced at least one formal job interview and 25 people had not experienced any formal job interviews. ANOVA results of interview experience variable were significant for JISSS part 1 ($F(1, 91)=11.154$, $p=.006$, $\varpi^2=.098$), JISSS part 2 ($F(1, 91)=10.134$, $p=.012$, $\varpi^2=.089$), and state CA ($F(1, 91)=13.643$, $p<.001$, $\varpi^2=.12$). The means of JISSS part 1 for applicants with experience ($M=170.75$, $SD=24.09$) and for applicants with no experience ($M=151.76$, $SD=24.92$) suggested that interviewees who have had experience in

previous job interviews reported more positive thoughts than those who had none. JISSS part 2's means – (M=167.54, SD 28.86) for applicants with experience and (M=144.32, SD=36.92) for applicants with no interview experience – indicated that those with interview experience reported such thoughts (JISSS part 1) helpful to their performance in job interviews. Finally, means of state CA for interviewees with interview experience (M=10.79, SD=4.61) and for interviewees with no interview experience (M=14.76, SD=4.55) indicated that those with interview experience were significantly less anxious in job interviews than those who had no interview experience.

Discussion and Conclusion

MANCOVA analysis for the three treatment groups was not significant, which suggests there is no difference among the treatment groups – performance visualization, control, and placebo groups with regard to the dependent variable investigated in this study. Therefore, none of the hypotheses could be confirmed.

The following section is devoted to reflect and revisit both theoretical and operational procedures employed in this study as an effort to explain these findings. Following that discussion, additional analyses and results are explored.

Typically, performance visualization has been implemented by a trainer or a coach. This in-person approach has repeatedly been found effective in reducing CA in public speaking situations (Ayres et al., 1995). By contrast, the present study used a videotape version of the performance visualization. Numerous studies have demonstrated such videotaped intervention to be effective (Ayres, 1995; Ayres et al.,

1995). For example, Ayres and his colleagues found that the use of a combination of guided imagery and modeling procedure was an effective way to utilize visualization (Ayres et al., 1995). In their study, a trainer operated the intervention by using a performance visualization videotape with standard modeling procedures. It might be possible that coaching heightens the effectiveness of such treatment. Likewise, Dwyer (2000) has found that interpersonal dynamics facilitate success of CA treatments. Thus, it could be that the lack of interaction between trainer and participants reduced the effectiveness of performance visualization in this instance.

In her recent article, Dwyer (2000) suggests that different people benefit from different approaches to CA interventions because individuals experience CA for a variety of reasons. She recommends that people be screened to discover the source of their CA. Once the source of their CA is known, the proper intervention can be employed. For instance, some people experience CA due to cognitive processes while others experience CA as a feeling of fear. In the cognitive-based case, negative thoughts or irrational thoughts interfere with one's performance in communication situations. According to Dwyer (2000), the appropriate way to assist these individuals is to expose them to a cognitively based approach to treatment such as performance visualization (Ayres & Hopf, 1992), cognitive restructuring (Meichenbaum, 1974), or COM therapy (Motley, 1997). Thus, another potential reason for the non-significant results obtained in this study might be due to the absence of screening participants for the origin of their CA in job interviews.

Additionally, Ayres, Hopf, and Edwards (1999) found that vividness and control are two major factors in the effectiveness of performance visualization. They suggested that people should be screened for their ability to create and manipulate images of themselves prior to exposure to performance visualization. Although performance visualization appears to be effective regardless of one's vividness and control abilities (Ayres et al., 1999), screening people for both factors before exposing them to the treatment seems to be worthwhile. By not implementing such screening procedures in the present study, the participants may have been deficient in vividness and control ability, which could be a factor that led to the non-significant findings.

Another reason performance visualization failed to be effective in this instance may be tied to the way the study proceeded. The present study used PRCAEI scores completed at the beginning of each of two semesters to select people to participate in this investigation. The participants were randomly selected from among those who score one standard deviation above the mean on the PRCAEI. However, the mean of PRCAEI scores (pretest) at the study site was 16.096 while the mean of PRCAEI at the beginning of the two semesters was 13.90 (the scores ranged from 5, very low CA, to 25, very high CA). These numbers indicated that the participants at the study site had much lower CA than the values obtained at the beginning of the semesters. It appears that they were not anxious by the time of the study. Since performance visualization is designed to help people cope with high CA, it may have been inappropriately applied to this group. It is recommended that further investigations closely explore this factor and screen out low CA participants prior to exposing them to performance visualization.

In the present study, after the participants completed the experimental procedures, they were asked for their opinions and suggestions regarding the study and its procedures. Those who were in the experimental group indicated that although the part of a sample job interview on videotape was useful, the overall videotape was quite long and boring. Also, they reported that they were not very motivated to process the materials since they did not anticipate any forthcoming job interviews. Of course, it is possible that the performance visualization is simply ineffective in impacting CA and other variables in employment interviews. Performance visualization works well in public speaking situations (Ayres & Hopf, 1993). Those situations are very different from employment interviews. Public speaking is relatively a one way communication situation (i.e., the speaker talks and the audience listens). However, employment interview is dynamic (e.g., the interviewer poses a question and the interviewee responds, etc.). It may be more difficult to alter the way relatively dynamic processes are envisioned than it is to alter the way a relatively static process is envisioned.

Additional analyses were utilized to probe other aspects of these data. ANOVA analyses suggest that regardless of the interviewers' gender, female interviewees were perceived to be more trustful and attractive than were male interviewees. Furthermore, these additional results suggest that candidates who have had prior experience in at least one formal job interview reported entertaining more positive thoughts about job interview situations than did those with no experience. These positive thoughts were reported useful in job interviews. More importantly, participants with prior job interview experience reported significantly lower state CA than did those with no interview

experience. That is, they were less anxious about job interviews than those who had not participated in any formal job interviews.

Is it possible that experience in previous job interview(s) helps reduce CA in interview situations? According to the skill training approach, the answer appears to be yes because such skill can become effortless once it has been practiced enough (Kelly, 1997). The main focus of the skill training programs is on the development of communication skills (Kelly, 1997). This behavioral approach to intervention facilitates the development of complicated skills through rehearsal exercises. By means of rehearsal, people become skillful and competent. Therefore, future research may consider skills training approach as a treatment to reduce CA in employment interviews.

A similar conclusion emerges when we analyze this from a cognitive perspective. According to Fiske & Taylor (1991), schema is defined as "a cognitive structure that represents knowledge about a concept of type of stimulus, including its attributes and the relations among those attributes" (p. 98). Basically, schemas perform encoding, memory, and inference. With experience of usage, schemas become more abstract, more complex, more organized, and more efficient. As a result, people with prior job interview experiences have a different set of schemas of job interviews than those with no experience. This distinctive set of schemas helps them understand and, therefore, handle such circumstances more effectively. Future studies investigating this dynamic will prove beneficial.

Limitations and Suggestions for Future Research

Certain factors limit the interpretation of this study's results. The participants were college students who were enrolled in a fundamentals of public speaking class. Therefore, this factor jeopardizes the study's external validity. That is, the generalizability of the results (both subjectwise and settingwise) was limited to college students enrolled in Communication Studies 102 at Washington State University.

Another limitation of the study involves the use of mock interviews. The interviewers were college students, which may have lessened the reality of the simulated experience. The interview was for a "fake" position. Consequently, this factor confines the study's generalizability to mock interviews of this nature. Work should be directed toward more realistic circumstances to determine if this factor impacted the results of this study.

The participants reported that they were not motivated to process materials presented in the study. Thus, it appears that the participants were not motivated to reduce their anxiety in this situation. Future research should recruit participants who are more motivated. For instance, candidates who recently received a job interview offer or those individuals who voluntarily seek assistance in interviewing at a placement center. Research using such individuals would provide a more realistic test of the effectiveness of the performance visualization in reducing CA in employment interviews.

Yet another concern is presenting performance visualization to respondents on videotape. As discussed above, guided or "live" interventions may be required to affect change. Previous research has repeatedly demonstrated the effectiveness of

performance visualization using a trainer (Ayres et al., 1997). The trainer-participant dynamic might facilitate a positive outcome. This interpersonal factor seems to be useful for performance visualization and has been found useful in many other treatments (Dwyer, 2000).

It is recommended that future studies screen participants prior to exposure to performance visualization (e.g., for vividness and control ability). A number of studies have found that screening people for their vividness and control abilities, and for their source of CA, facilitates a better fit to the treatments (Ayres et al., 1997; Dwyer, 2000).

Reports from the participants suggested several avenues for research. First, the participants felt the performance visualization video was boring and lengthy. Therefore, the performance visualization should be implemented by a trainer or a coach to make the treatment more interesting and less monotonous. One way to accomplish this would be to stop the videotape at strategic points and assist participants in the visualization exercises. This approach should add interest and add interpersonal interaction between the trainer and the participants, which ought to be beneficial in alleviating CA. Also, the trainer could adjust the length of the videotape to fit the particular audience. This would allow the trainer to modify the treatment to participants with different needs and skills.

Secondly, future research should be more aware of the participants' motivation in the study. It appeared that the participants in this study (college students) volunteered mainly for extra credit in Communication Studies 102. A different pool of

participants (e.g., senior students at the university's placement center) might be more motivated to reduce the CA in job interviews.

Lastly, as the major difference on PRCAEI scores in this present study indicates, future studies should take into account such inconsistency. For example, the study should be conducted earlier in the semester to make sure that the participants have not lowered their anxiety level. Also, low CA participants at the study site should be screened out from the study prior to exposure to treatments.

Additional analyses also indicated some useful avenues for future study. These analyses indicated that people who have experienced at least one formal job interview were significantly less anxious in job interviews than those with no prior job interview experience. If that is the case, one possible treatment for CA in employment interviews is to encourage job candidates to practice being interviewed. This can be done as a training method or a treatment approach. Although the results sound hopeful, the present study was not designed to explore such possibilities. Research into this prospect seems desirable.

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